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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10/805,814	03/22/2004	Michael J. Brosnan	10040348-1	9966
57299	7590	11/15/2007		
Kathy Manke Avago Technologies Limited 4380 Ziegler Road Fort Collins, CO 80525			EXAMINER TRAN, MY CHAU T	
			ART UNIT 2629	PAPER NUMBER
			NOTIFICATION DATE 11/15/2007	DELIVERY MODE ELECTRONIC

Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

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Office Action Summary

Application No.

10/805,814

Applicant(s)

BROSNAN ET AL.

Examiner

MY-CHAU T. TRAN

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-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 24 October 2007.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1,2,5,6,21-23 and 25-31 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☒ Claim(s) 1,2,5,6,21-23 and 29-31 is/are allowed.
- 6) ☒ Claim(s) 25-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 22 March 2004 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
- ☐ Certified copies of the priority documents have been received.
 - ☐ Certified copies of the priority documents have been received in Application No. _____.
 - ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO/SB/08)
Paper No(s)/Mail Date _____
- 4) ☐ Interview Summary (PTO-413)
Paper No(s)/Mail Date. _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

Application and Claims Status

1. Applicant's amendment and response filed 10/24/2007 are acknowledged and entered.
2. Claims 1, 2, 4-6, 18, 19, and 21-31 were pending. Applicants have amended claims 1, 5, 23, and 25 and cancelled claims 4, 18, 19, and 24. No claims were added. Therefore, claims 1, 2, 5, 6, 21-23, and 25-31 are currently pending and are under consideration in this Office Action.

Status of Claim(s) Objection(s) and /or Rejection(s)

3. The rejection of claims 18, 19, and 23 under 35 USC 102(b) as being anticipated by Piot et al. (US Patent 6,256,016 B1) has been withdrawn in light of applicant's amendments of claim 23 and cancellation of claims 18 and 19.
4. The rejection of claims 1 and 2 under 35 USC 103(a) as being obvious over Piot et al. (US Patent 6,256,016 B1) in view of Kakarala et al. (Patent Application Publication US2004/0051798 A1; submitted in IDS filed 06/14/2007) has been withdrawn in view of applicant's amendments of claim 1.

Maintained Rejection(s)

Claim Rejections - 35 USC § 102

5. The text of those sections of Title 35, U.S. Code not included in this action can be found in a prior Office action.

6. Claims 25-28 are rejected under 35 U.S.C. 102(b) as being anticipated by Piot et al. (US Patent 6,256,016 B1).

For **claims 25-28**, Piot et al. disclose an optical detecting system and method that detects movement of the optical detecting system (see e.g. Abstract; col. 4, lines 5-21; col. 4, line 43 thru col. 5, line 58). The apparatus comprises a coherent light source that is a laser diode (refers to instant claimed light source) wherein the light source illuminates an imaging surface and generates reflected images, and photosensor array that generates image data signals from the reflected images to be use for an image motion detection calculation (refers to instant claimed navigation sensor)(see e.g. col. 4, lines 5-42; col. 6, line 66 thru col. 7, line 46; col. 8, line 22 thru col. 11, line 54; col. 11, line 66 thru col. 12, line 14; col. 17, line 65 thru col. 18, line 56; figs. 2, 3, 4B-4D, and 9). In one embodiment, Piot et al. disclose the calculation uses a 1D cross-correlation analysis (refers to instant claims 26 and 28) that calculates the image data signals in the y-direction (refers to instant claimed columns of pixels) and the x-direction (refers to instant claimed rows of pixels)(see e.g. col. 5, lines 5-58; col. 19, line 29 thru col. 20, line 22; fig. 10). The calculation uses the formula of $R_x(M) = \sum_x (\text{NewX}(x))(\text{RefX}(x-m))$ for the x-direction (refers to instant claimed limitation of '*comprises summing only pixels values from a first one of the digital images, thereby generating a first plurality of sums*' and claims 27 and 28)(see e.g. col. 19, lines 29-64). Additionally, Piot et al. disclose that the formula use for the x-direction is also applicable to the y-direction (refers to instant claimed limitation of '*summing only pixel values from a second one of the digital images, thereby generating a second plurality of sums*' and claims 27 and 28)(see e.g. col. 19, lines 29-64).

Therefore, the device of Piot et al. does anticipate the instant claimed invention.

Response to Arguments

7. Applicant's arguments directed to the above 102(b) rejection were considered but they are not persuasive for the following reasons. Please note that the above rejection has been modified from its original version to more clearly address applicant's newly amended and/or added claims and/or arguments.

[1] Applicant alleges that '*As amended, the independent claim 25 recites "wherein the movement computation comprises summing only pixels values from a first one of the digital images, thereby generating a first plurality of sums, and summing only pixel values from a second one of the digital images, thereby generating a second plurality of sums," which is not disclosed in the cited reference of Piot et al.*'. Thus, the device of Piot et al. does not anticipate the instant claimed invention.

This is not found persuasive for the following reasons:

[1] The examiner respectfully disagrees. It is the examiner's position that Piot et al. does disclose the amended limitation of claim 25, i.e. '*wherein the movement computation comprises summing only pixels values from a first one of the digital images, thereby generating a first plurality of sums, and summing only pixel values from a second one of the digital images, thereby generating a second plurality of sums*'. Piot et al. disclose the calculation uses a 1D cross-correlation analysis that calculates the image data signals in the y-direction (refers to instant claimed columns of pixels) and the x-direction (refers to instant claimed rows of pixels)(see e.g. col. 5, lines 5-58; col. 19, line 29 thru col. 20, line 22; fig. 10). The calculation uses the formula of $R_x(M) = \sum_x (\text{NewX}(x))(\text{RefX}(x-m))$ for the x-direction (refers to instant claimed limitation of '*comprises summing only pixels values from a first one of the digital*

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images, thereby generating a first plurality of sums'), which is also applicable to the y-direction (refers to instant claimed limitation of '*summing only pixel values from a second one of the digital images, thereby generating a second plurality of sums'*')(see e.g. col. 19, lines 29-64).

Therefore, the teachings of Piot et al. do anticipate the device of the instant claims, and the rejection is maintained.

Allowable Subject Matter

8. Claims 1, 2, 5, 6, 21-23, and 29-31 are allowed.

Conclusion

9. Applicant's amendment necessitated the new ground(s) of rejection presented in this Office action. Accordingly, **THIS ACTION IS MADE FINAL**. See MPEP § 706.07(a). Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the date of this final action.

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Any inquiry concerning this communication or earlier communications from the examiner should be directed to MY-CHAU T. TRAN whose telephone number is 571-272-0810. The examiner can normally be reached on Monday: 8:00-2:30; Tuesday-Thursday: 7:30-5:00; Friday: 8:00-3:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Richard A. Hjerpe can be reached on 571-272-7691. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/My-Chau T. Tran/
Primary Examiner
Art Unit 2629
November 10, 2007


MY-CHAU T. TRAN 11/10/07
~~PATENT~~ EXAMINER
Primary